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(54) Title of the Invention: A Cosmetic Material

(57) [Abstract]

[Problem] Its objective is to provide a cosmetic material with which a refreshing feeling is maintained over a long period.

[Structure] A cosmetic material in which one or two or more substances selected from refrigerants[1] and one or two or more substances selected from menthol derivatives or cyclodextrin derivatives and inclusion complexes in which they are clathrated are compounded.

[Claims]

[Claim 1] A cosmetic material characterized in that one or two or more substances selected from refrigerants and one or two or more substances selected from menthol derivatives or cyclodextrin derivatives are compounded.

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[1]Translator's Note: The term "refrigerant" is literally translated from the Japanese.

[Claim 2] A cosmetic material characterized in that one or two or more substances selected from refrigerants and one or two or more substances selected from menthol derivatives and an inclusion substances in which they are clathrated with a cyclodextrin derivative are compounded.

[Claim 3] A cosmetic material as described in Claim 1 or Claim 2 in which the refrigerants are menthol, camphor, mint or eucalyptus oil.

[Claim 4] A cosmetic material as described in Claim 1 or Claim 2 in which the menthol derivatives are menthyl lactate, menthoxypropanediol, menthyl hydroxybutyrate, menthoxyfuran and methyl glucoside.

[Detailed Description of the Invention]

[0001]

[Technological field of the invention] This invention relates to a cosmetic material that exhibits excellent maintenance of a refreshing feeling. In greater detail, it relates to a cosmetic material that is characterized in that it consists of a refrigerant, a menthol derivative or also a cyclodextrin derivative, in that an inclusion substance in which they are clathrated and that increases their solubility with water is compounded and in that the sustaining capacity of the refreshing feeling is increased.

[0002]

[Prior art] In general, refrigerants such as menthol, camphor, mint and eucalyptus oil are compounded in order to give cosmetic materials a refreshing feel. Although these refrigerants temporarily cool body temperature, with a refreshing feeling being obtained, body temperature is immediately restored, and, conversely, a burning sensation is felt. Thus, they lack effectiveness in sustaining the refreshing feeling.

[0003]

[Problems the invention is intended to solve] The inventors conducted intensive and repeated research for the purpose of increasing the sustaining capacity of the refreshing feeling of the cosmetic materials. As a result, they discovered that the refreshing feeling is sustained when a delayed acting menthol derivative is used in combination with the refrigerant. They further arrived at this invention by discovering that the sustaining capacity can be further increased when the refrigerant and the menthol derivative are clathrated in a cyclodextrin derivative.

[0004]

[Means for solving the problems] Specifically, this invention relates to a cosmetic material characterized in that it consists of a refrigerant and a menthol derivative or also a cyclodextrin derivative and in that an inclusion complex is compounded in which these substances are clathrated and that increases their solubility in water.

[0005] We shall now present a detailed description of this invention. The refrigerants that are used in this invention as described in Claim 1 are menthol, camphor, mint and eucalyptus oil. Of these, the use of menthol is particularly desirable and the use of L-menthol is even more desirable. One or two or more refrigerants can be compounded with the cosmetic material of this invention. Although there are no particular limitations on the quantity of refrigerant compounded, 0.001 to 10.0 weight % is desirable, and, 0.01 to 5.0 weight % is particularly desirable.

[0006] The menthol derivatives that can be used in this invention as described in Claim 1 can include menthyl lactate, menthoxypropanediol, menthyl propoxybutyrate, menthoxyfuran and menthyl glucoside. Of these, the use of menthyl lactate is particularly desirable. One or two or more menthol derivatives can be compounded with the cosmetic material of this invention. Although there are no particular limitations on the quantity of menthol derivative compounded, 0.001 to 10.0 weight % is desirable, and 0.01 to 5.0 weight % is particularly desirable.

[0007] The clyclodextrin derivatives that can be used in this invention as described in Claim 2 are compounds that are synthesized for the purpose of increasing the water-solubility of cyclodextrin. Specifically, they can include hydroxyalkylated cyclodextrin, alkylated cyclodextrin, glycosylated cyclodextrin, maltosylatyed cyclodextrin, aminated cyclodextrin, carboxymethyl cyclodextrin and cyclodextrin epichlorohydrin. The cyclodextrin derivative may be of the α, β or γ type or may be mixed types. Of these substances, hydroxyalkylated cyclodextrin is particularly desirable from the standpoints of solubility and productivity, with the use of hydroxypropyl-β-cyclodextrin being even more desirable. One or two or more cyclodextrin derivatives can be compounded with the cosmetic material of this invention. The quantity of cyclodextrin derivative compounded should be 0.1 to 20 weight %, and, preferably, 1.0 to 10.0 weight %. The reason that cyclodextrin derivatives are preferable to cyclodextrin in this invention as described in Claim 2 is that solubility in water is insufficient with cyclodextrin and that sufficient solubility cannot be obtained, with precipitation occurring, when the refrigerant and menthol derivative are clathrated. On the other hand, because the cyclodextrin derivatives exhibit sufficient solubility, sufficient solubility of the inclusion complex in water is assured and there is excellent stability.

[0008] As required, humectants, oils, drugs, fragrances and pigments can be added to the cosmetic material of this invention in ranges that do not impair its stability.

[0009] Next, we shall present a more detailed explanation of this invention by means of examples and comparative examples. This invention is not limited by them.

[Evaluation of the refreshing feel]

A specialist panel of 15 individuals was used for evaluation of the cosmetic product. The toilet water of Examples 1 to 8 was applied to the right side of the face using cotton, the toilet water of Comparative Examples 1 to 8 was applied to the left side of the face using cotton and the way of feeling (quick effect, delayed effect, sustained effect and restoration of refreshing feeling) of the refreshing feeling of the two materials was evaluated on the basis of the evaluation standards described below.

[0010] (Evaluation standards)

◎: 12 or more members of the 15-member specialist panel answered that there was a satisfactory refreshing feeling.

O: 8 to 11 members of the 15-member specialist panel answered that there was a satisfactory refreshing feeling.

Δ: 4 to 7 members of the 15-member specialist panel answered that there was a satisfactory refreshing feeling.

X: 0 to 3 members of the 15-member specialist panel answered that there was a satisfactory refreshing feeling.

[0011] The results of the use tests are shown in Table 1 to Table 4. As should be evident from Table 1 to Table 4, in Example 2, Example 4, Example 6 and Example 8, there was a high sustaining effect of the refreshing material and there was a considerable feeling of restoration of the refreshing feeling when perspiration occurred. In Example 1, Example 3, Example 5 and Example 7, in which they were clathrated with cyclodextrin derivatives, there was, of course, a sustaining effect on the refreshing feeling and marked restoration of the refreshing feeling was seen particularly when perspiration occurred. On the other hand, in Comparative Example 1, Comparative Example 3, Comparative Example 5 and Comparative Example 7, there was a feeling of restoration of the refreshing feeling but sustaining capacity was lacking. Moreover, in Comparative Example 2, Comparative Example 4, Comparative Example 6 and Comparative Example 8, delayed effect refreshing feeling was lacking among the ways of feeling the refreshing feeling.

[0012]

[Table 1] (weight %)

	Example 1	Example 2	Comp. Example 1	Comp. Example 2
Ion Exchange Water	to 100%	to 100	to 100	to 100
Ethanol	30	30	30	30
L-Menthol	0.15	0.15	0.3	--
Menthyl lactate	0.15	0.15	–	0.3
POE(60) hardened castor oil derivative	0.5	0.5	0.5	0.5
Hydroxypropyl-β-cyclodextrin	3.0	–	–	--
Quick	O	O	O	X
Refreshing feeling Delayed	O	O	X	O
Sustained	O	Δ	X	Δ
Restoration of refreshing feeling	◎	O	X	X

[0013]

[Table 2] (weight %)

	Example 3	Example 4	Comp. Example 3	Comp. Example 4
Ion Exchange Water	to 100%	to 100	to 100	to 100
Ethanol	30	30	30	30
Camphor	0.15	0.15	0.3	--
Menthoxy-propanediol	0.15	0.15	–	0.3
POE(60) hardened castor oil derivative	0.5	0.5	0.5	0.5
Hydroxypropyl-β-cyclodextrin	3.0	–	–	--
Quick	O	O	O	X
Refreshing feeling Delayed	O	O	X	O
Sustained	O	O	X	Δ
Restoration of refreshing feeling	◎	Δ	X	X

[0014]

[Table 3] (weight %)

	Example 5	Example 6	Comp. Example 5	Comp. Example 6
Ion Exchange Water	to 100%	to 100	to 100	to 100
Ethanol	30	30	30	30
Mint	0.1	0.1	0.2	--
Menthyl hydroxy-butyrate	0.1	0.1	–	0.2
POE(60) hardened castor oil derivative	0.5	0.5	0.5	0.5
Hydroxypropyl-β-cyclodextrin	3.0	–	–	–
Quick	O	O	O	X
Refreshing feeling Delayed	O	O	X	O
Sustained	O	O	X	Δ
Restoration of refreshing feeling	◎	Δ	X	X

[0015]

[Table 4] (weight %)

	Example 7	Example 8	Comp. Example 7	Comp. Example 8
Ion Exchange Water	to 100%	to 100	to 100	to 100
Ethanol	30	30	30	30
Eucalyptus oil	0.1	0.1	0.2	--
Menthyl glucoside	0.1	0.1	–	0.2
POE(60) hardened castor oil derivative	0.5	0.5	0.5	0.5
Hydroxypropyl-β-cyclodextrin	3.0	–	–	–
Quick	O	O	O	X
Refreshing feeling Delayed	O	O	X	O
Sustained	O	O	Δ	Δ
Restoration of refreshing feeling	◎	O	X	X

[0016]

Example 9	Cool toilet water	Amount compounded (weight %)
A.	Ion exchange water	to 100
	Glycerol	2
	Hydroxypropyl-β-CD	1
	Glycyrrhizic acid ammonium	0.05
	Aloe extraction solution	1.0
	2-Hydroxy-4-methoxysulfonic acid Na	0.1
B.	Ethanol	15
	POE (60 mol) hardened castor oil	0.5
	Menthol	0.2
	Menthyl lactate	0.2
	Vitamin E acetate	0.01
	Butylparaben	0.1
	Fragrance	0.01

(Method of manufacture) Part A, which was dissolved in ion exchange water, and part B, which was dissolved in ethanol, were mixed and a cool cosmetic material was obtained. The cool toilet water of this invention exhibited a high sustaining effect for the refreshing feeling and exhibited satisfactory restoration of the refreshing feeling when perspiration had occurred.

[0017]

Example 10	Cool essence	Amount compounded
A.	Ion exchange water	to 100
	1,3--Butylene glycol	10.0
	Glucosyl-mixed (α,β,γ)-cyclodextrin	5.0
	Cyclodextrin polymer	5.0
	Carboxyvinyl polymer	0.2
	L-Arginine	0.2
B.	Ethanol	30.0
	Menthol	1.0
	Camphor	1.0
	Eucalyptus oil	1.0
	Menthoxypropanediol	1.0
	Macademia nut oil	1.0
	POE Cholesteryl dihydroxyisosterate	1.0

(Method of manufacture) Part A, which was dissolved in ion exchange water, and part B, which was dissolved in ethanol, were mixed and a cool essence was obtained. The cool essence of this invention exhibited a high sustaining effect for the refreshing feeling and exhibited satisfactory restoration of the refreshing feeling when perspiration had occurred.

[0018]

Example 23 Cool sunscreen		Amount compounded
A.	Ion exchange water	
	Menthoxy-mixed-cyclodextrin	0.5
	Glyceryl-β-cyclodextrin	0.5
	Dipropylene glycol	5.0
	Menthol	0.3
	Menthyl hydroxybutyrate	0.3
	Ethanol	2.0
	Potassium hydroxide	0.7
B.	Stearic acid	4.0
	Stearyl alcohol	2.0
	Monostearic acid glyceride	3.0
	Methyl cyclosiloxane	5.0
	Squalane	5.0
	Octyl methoxycinnamate	7.5
	2-Hydroxy-4-methoxybenzophenone	2.0

(Method of manufacture) The aqueous phase Part A and the oleaginous phase Part B were mixed uniformly and emulsified and cool sunscreen was obtained. The cool sunscreen of this invention exhibited a high sustaining effect for the refreshing feeling and exhibited satisfactory restoration of the refreshing feeling when perspiration had occurred.

[0019]

Example 12 Cool foundation		Amount compounded
A.	Ion exchange water	20.0
	Rabonaito [phonetic]	2.0
	Hydroxyethyl-β-CD	5.0
	Ethylparaben	0.2
	Menthol	0.05
	Methoxyfuran	0.05
	Vitamin E acetate	0.05
B.	Mica	40.0
	Talc	18.45
	Yellow iron oxide	10.0
	Red iron oxide	7.0
	Black iron oxide	1.0
	Titanium dioxide	15.0
	Sorbitan sesquioleate	1.2

(Method of manufacture) Part A was mixed and a CD clathrate solution was made. Following that, it was spray dried and a powdered inclusion complex was made. It was then mixed uniformly with part B and a cool foundation was obtained. The cool foundation of this invention exhibited a high sustaining effect for the refreshing feeling and exhibited satisfactory restoration of the refreshing feeling when perspiration had occurred.

[0020]

Example 13. Cool cologne		Amount compounded
A.	Ion exchange water	5.0
	Hydroxypropyl·mix·CD	5.0
	Glycyrrhizic acid monoammonium [salt]	0.1
	Carboxylvinyl polymer	0.1
	L-arginine	0.1
B.	Ethanol	83.4
	Fragrance	3.0
	Menthol	0.1
	Menthyl lactate	0.1
	Eucalyptus oil	0.1
	Octyl methoxycinnamate	3.0

(Method of manufacture) Part A was dissolved uniformly, after which part B, which was dissolved uniformly, was added to and mixed with it and a cool cologne was obtained. The cool cologne of this invention exhibited a high sustaining effect for the refreshing feeling and exhibited satisfactory restoration of the refreshing feeling when perspiration had occurred.

[0021]

Example 14 A cool powder lotion		Amount compounded
A.	Ion exchange water	72.4%
	1,3-Butylene glycol	1.0
	Menthol	0.2
	Menthyl hydroxybutyrate	0.2
	Mint	0.1
	Ethanol	20.0
B.	Zinc white	1.0
	Kaolin	1.0
	Fine grain titanium oxide	1.0
	Red iron oxide	0.1

(Method of manufacture) Part A was uniformly dissolved and an inclusion complex of the refrigerant was made, after which powdered part B, which was mixed uniformly, was added and uniformly mixed, with a cool powder lotion being obtained. The cool powder lotion of this invention exhibited a high sustaining effect for the refreshing feeling and exhibited satisfactory restoration of the refreshing feeling when perspiration had occurred.

[0022]

Example 15 Cool toilet water		Amount compounded (weight %)
A.	Ion exchange water	to 100
	Glycerol	1.9
	Hydroxypropyl-β-CD	1.1
	Glycyrrhizic acid ammonium [salt]	0.05
	Aloe extract solution	1.0
	2-Hydroxy-4-methoxysulfonic acid Na	0.1

B.	Ethanol	14.5
	POE (60 mol) hardened castor oil	1.0
	Camphor	5.0
	Menthoxypropanediol	0.01
	Menthyl lactate	0.01
	Vitamin E acetate	0.01
	Butylparaben	0.1
	Fragrance	0.01

(Method of manufacture) Part A, which was dissolved in ion exchange water, and part B, which was dissolved in ethanol, were mixed and a cool cosmetic material was obtained. The cool toilet water of this invention exhibited a high sustaining effect for the refreshing feeling and exhibited satisfactory restoration of the refreshing feeling when perspiration had occurred.

[0023]

Example 16	Cool essence	Amount compounded (weight %)
A.	Ion exchange water	to 100
	1,3-Butylene glycol	12.5
	Glucosyl-mixed (α,β,γ)-cyclodextrin	5.0
	Cyclodextrin polymer	5.0
	Carboxyvinyl polymer	0.3
	L-arginine	0.15
B.	Ethanol	28.0
	Menthol	0.01
	Mint	0.01
	Eucalyptus oil	0.01
	Menthoxypropanediol	5.0
	Macademia nut oil	1.0
	POE cholesteryl dihydroxyisostearate	1.0

(Method of manufacture) Part A, which was dissolved in ion exchange water, and part B, which was dissolved in ethanol, were mixed and a cool essence was obtained. The cool essence of this invention exhibited a high sustaining effect for the refreshing feeling and exhibited satisfactory restoration of the refreshing feeling when perspiration had occurred.

[0024]

Example 17	Cool sunscreen	Amount compounded (weight %)
A.	Ion exchange water	Residual quantity
	Methoxy-mixed-cyclodextrin	4.5
	Glyceryl-β-cyclodextrin	5.5
	Dipropylene glycol	5.0
	Eucalyptus oil	10.0
	Menthyl glycoside	10.0
	Ethanol	2.0
	Potassium hydroxide	0.7
B.	Stearic acid	4.0
	Stearyl alcohol	2.0
	Monostearic acid glyceride	3.0
	Methyl cyclosiloxane	5.0
	Squalane	5.0
	Octyl methoxycinnamate	7.5
	2-Hydroxy-4-methoxybenzophenone	2.0

(Method of manufacture) The aqueous phase part A and the oleaginous phase part B were mixed uniformly and emulsified and a cool sunscreen was obtained. The cool sunscreen of this invention exhibited a high sustaining effect for the refreshing feeling and exhibited satisfactory restoration of the refreshing feeling when perspiration had occurred.

[0025]

Example 18	Cool foundation	Amount compounded (weight %)
A.	Ion exchange water	25.0
	Raponite [phonetic]	2.0
	Ethylparaben	0.2
	Mint	0.05
	Menthoxypropanediol	0.05
	Vitamin E acetate	0.05
B.	Mica	40.0
	Talc	18.45
	Yellow iron oxide	10.0
	Red iron oxide	7.0
	Black iron oxide	1.0
	Titanium dioxide	15.0
	Sorbitan sesquioleate	1.2

(Method of manufacture) Part A was mixed, after which it was mixed uniformly with part B and a cool foundation was obtained. The cool foundation of this invention exhibited a high sustaining effect for the refreshing feeling and exhibited satisfactory restoration of the refreshing feeling when perspiration had occurred.

[0026]

Example 19	Cool cologne	Amount compounded (weight %)
A.	Ion exchange water	Residual quantity
	Glycyrrhizic acid monoammonium [salt]	0.15
	Carboxylvinyl polymer	0.15
	L-arginine	0.1
B.	Ethanol	81.2
	Fragrance	3.0
	Menthol	0.001
	Camphor	0.001
	Menthyl lactate	0.1
	Eucalyptus oil	0.001
	Octyl methoxycinnamate	3.0

(Method of manufacture) Part A was dissolved uniformly, after which part B, which was dissolved uniformly, was added to and mixed with it and a cool cologne was obtained. The cool cologne of this invention exhibited a high sustaining effect for the refreshing feeling and exhibited satisfactory restoration of the refreshing feeling when perspiration had occurred.

[0027]

Example 20	Cool powder lotion	Amount compounded (weight %)
A.	Ion exchange water	72.4%
	1,3-Butylene glycol	1.0
	Carboxymethyl-α-cyclodextrin	1.0
	Mint	0.2
	Eucalyptus oil	0.1
	Menthyl hydroxybutyrate	0.2
	Ethanol	20.0
B.	Zinc white	1.0
	Kaolin	1.0
	Fine grain titanium oxide	1.0
	Red iron oxide	0.1

(Method of manufacture) Part A was dissolved uniformly and an inclusion complex of refrigerant was made, after which powdered part B, which was mixed uniformly, was added and mixed uniformly, with a cool powder lotion was obtained. The cool powder lotion of this invention exhibited a high sustaining effect for the refreshing feeling and exhibited satisfactory restoration of the refreshing feeling when perspiration had occurred.

[0028]

[Effect of the invention] The cosmetic material of this invention has the following advantages. Specifically, the sustaining effect on refreshing feeling is increased by the combined use of a refrigerant the refreshing feeling of which is rapidly felt and of a menthol derivative the effect of which is delayed. Further, as a result of being clathrated in a cyclodextrin derivative, it is a cosmetic material the refreshing feeling of which is sustained for a long period, with the refreshing feeling being restored when it is moistened with water or when perspiration occurs.